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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

#91 Appeal Brief
5/17/02
V. Hart

Applicant: Henry H. Jenkins
Serial No: 09/580,412
Filed: May 30, 2000
For: STEEL RULE DIE AND STEEL RULE

Examiner: O. Flores Sanchez
Art Unit: 3724

9213 Chillicothe Rd.
Kirtland, OH 44094
April 30, 2002

Assistant Commissioner for Patents
Washington, D.C. 20231

APPEAL BRIEF

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Dear Sir:

REAL PARTY IN INTEREST

The real party in interest is Henry H. Jenkins, the named inventor.

RELATED APPEALS AND INTERFERENCES:

There are no other appeals or interferences which will directly affect or have a bearing on the Board's decision in this pending appeal

STATUS OF THE CLAIMS:

The status of Claims 1-25 which are under appeal and which are found in the attached appendix pursuant to 37 CFR Section 1.192(c)(9) is they have all been finally rejected in the final action dated March 8, 2002. Claims 1 and 4-6 stand rejected under 35 USC 103(a) as being unpatentable over Brayton et al (US 5,943,935) in view of A.

Dewes (US 171,270). Claims 2-3 stand rejected under 35 USC 103(a) as being unpatentable over Brayton et al in view of Johnson (US 5,676,032). Claims 7-25 stand rejected under 35 USC 103(a) as being unpatentable over Johnson.

STATUS OF AMENDMENTS

No amendments have been made to the claims or the description in the prosecution of this application.

SUMMARY OF THE INVENTION

The present invention solves a problem found in the art which can be broadly stated as expensive steel rule dies used for example in cutting substrates in the paper or packaging industry. In the blister packaging industry it is conventional to have a plurality of identical blisters carrying a product attached to a large piece of cardboard or substrate. It is normally necessary to separate these blisters into discrete individual products to be presented to the purchasing public. This procedure is normally carried out by the use of steel rule dies.

The construction of steel rule dies to cut the substrate into pieces having square or 90 degree corners is relatively inexpensive however the substrate so cut leaves the corners easily bent and rendered unattractive to the purchasing public. Arguably the most attractive corners to be cut are rounded corners however to construct a steel rule die to accomplish this requires the skills of an experienced die maker.

The present invention solves this problem by the use of a novel steel rule die which can be constructed from a steel member as shown in Figures 7-10 which extends

generally along a longitudinal axis and which has its opposite ends extending at a 45 degree angle to the longitudinal axis. The opposite ends of the steel rule extend on opposite sides of the referenced longitudinal axis. This construction enables the quick and relatively inexpensive construction of a steel rule die as illustrated in Figures 2-6 and 12-15. The economies of the present invention are realized because only identical steel rules need be used(in the case of square dies) to construct the entire steel rule die and these steel rules can be obtained as off the shelf items. With other rectangular shaped dies identical rules of two different lengths need be used. This obviates the need for a skilled die maker as where a die with rounded corners is desired and has the advantage of producing a stronger and more durable corner on cut substrate than that produced by dies designed to cut square corners.

Figure 13 is an illustrative example of an assembly of steel rules made in accordance with the teachings of the present invention and identified by the reference numerals 70A and 70B to produce a steel rule die in accordance with the invention. This illustrates that identical steel rules may be used throughout with the exception if the cutting perimeter is to be other than square, the length of the rules in one direction would be different than in the other direction. This figure illustrates how the ends of adjacent rules engage each other and Figure 12 shows this engagement in much more detail.

In addition Figure 13 illustrates how the engagement of the rules creates the so-called inside corner 86(See Figure 11) in which is located the cylindrical ejection rubber 90 which is used to eject cut pieces of substrate from the die. As described in the

specification when the press comes closed the cylindrical shaped ejection rubber is squeezed into the square configuration to prevent cut substrate from being lodged in corners between the round and square configurations and when the press comes open the ejection member again assumes its cylindrical shape pushing cut pieces out of this configuration.

ISSUES

Issue 1

Did the Examiner correctly reject Claims 1 and 4-6 under 35 USC 103(a) as being unpatentable over Brayton et al in view of A. Dewes. In his rejection the Examiner stated as follows:

Brayton discloses (Fig. 2-4) the invention substantially as claimed including a bottom board 21b, cavity board 20, a metal plate 45, a top board 21a, a plurality of rule slots 23, a steel rule 12, a cutting edge is defined by a generally triangular shape configuration and a bottom portion. Brayton doesn't show each of the steel rule having and first and second end portions extending at approximately a 45 degree angle. However, Dewes teaches the use of a steel rule having first and second end portions extending at approximately a 45 degree angle for the purpose of cutting the extremities of the collar-blank. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Brayton's die by providing the steel rule having and first and second end portion extending at approximately a 45 degree angle as taught by Dewes in order to obtain an angle cut. .

Issue 2

Did the Examiner correctly reject Claim 2-3 under 35 USC 103(a) as being unpatentable over Brayton et al in view of Johnson (US 5,676,032). In his rejection the Examiner stated as follows:

Brayton discloses the invention substantially as claimed except for a generally

cylindrical ejection rubber. However, Johnson teaches the use of ejection rubber for the purpose of removing the material out of the die. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Brayton's die by providing ejection rubbers as taught by Johnson in order to remove the material out of the die.

Regarding to the cylindrical shape, it would have been an obvious matter of design choice to modify the Johnson reference by having a cylindrical ejection rubber, since applicant has not disclosed that a cylindrical ejection rubber solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with Johnson's ejection rubber.

Issue 3

Did the Examiner correctly reject Claims 7-25 under 35 USC 103(a) as being unpatentable over Johnson.. In his rejection the Examiner stated as follows:

Johnson discloses (Fig. 5-19) the invention including a metal plate (see Fig. 16), a top board 3, a plurality of rule slots 27, a steel rule/metal member 4, a cutting edge is defined by a generally triangular shape configuration, a bottom portion and first and second end portions extending at approximately a 45 degree angle (9-10), a first direction and a second direction. Johnson doesn't show a second adjacent steel rule having first and second end portions extending at approximately a 45 degree angle. It would have been obvious to one of having ordinary skill in the art at the time the invention was made to modified Johnson's steel rules by providing a second adjacent steel rule having first and second end portions extending at approximately a 45 degree angle, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art, and in order to create the desired shape of cut.

GROUPING OF THE CLAIMS

In the rejection of the group of Claims 1 and 4-6 which the Examiner has rejected under 35 USC 103(a) as being unpatentable over Brayton et al in view of A. Dewes, applicant takes the position that these claims do not all stand or fall together. In this respect Claims 1 and 4 stand or fall together and Claims 5 and 6 stand or fall together.

In the rejection of the group of Claims 2-3 which the Examiner has rejected under

35 USC 103(a) as being unpatentable over Brayton et al in view of Johnson, applicant takes the position that these claims do not stand or fall together. In this respect Claim 3 stands or falls with Claim 1 however Claim 2 stands on its own merits.

In the rejection of the group of Claims 7-25 which the Examiner has rejected under 35 USC 103(a) as being unpatentable over Johnson applicant takes the position that Claims 7, 9, 11, 14, 16, 18, 20, 22 and 24 stand or fall on their own.

ARGUMENT

Applicant wishes to point out at the beginning of this brief that he disagrees with the Examiner's position that the combination of the references of Brayton et al, Dewes and Johnson as used in the various rejections can bring about the advantages of the invention disclosed in this application. As applicant has pointed out, he made a disclosure wherein a single (in the case of square die configurations) or at most two steel rules (in other rectangular die configurations) which can be off the shelf items, can be used to create an entire die by simply arranging the novel steel rules by a relatively unskilled workman. The unique configurations at each end of the steel rules enables them to be arranged in end to end relationship to accomplish the making of a steel rule die which can be quickly and economically accomplished.

Issue 1 relates to the rejection of Claims 1 and 4-6 under 35 USC 103(a) on Brayton in view of Dewes. The Examiner concedes Brayton does not show a steel rule having the end portions with the 45 degree angles however maintains that Dewes does have end portions that meet this limitation and it would have been obvious to one of

ordinary skill in the art at the time the invention was made to have modified Brayton's die by providing it with the structure of Dewes in order to obtain an angle cut.

Applicant disagrees with this rejection. It is submitted that Claim 1 for example describes a steel rule die made with steel rules which extend on a longitudinal axis and have first and second end portions. The first end portion extends at a 45 degree angle to the longitudinal axis and on one side thereof while the second end portion extends at a 45 degree angle to the longitudinal axis and on another side thereof. The steel rules are arranged alternately with a first end portion of a given rule located adjacent the second end portion of the next adjacent rule. This cannot be found in the references used in the rejection and it is not suggested in either of the two references. If one were to combine the two references (which applicant does not believe possible) what kind of a structure would one come up with. In the first instance the cutting rules 12a of Brayton do not suggest separate individual rules arranged in end to end relationship but rather one continuous rule arranged to perform a cutting operation. Since Brayton does not suggest individual rules arranged in some sort of pattern then how can there be a suggestion as to how the end portions are formed. Apparently the Examiner is using the Dewes' reference to supply this deficiency. The problem is that there are no end portions in Brayton to modify. If one were to make the leap suggested by the Examiner what kind of construction could one conceivably come up with. There is no suggestion from the Examiner as to whether he is adding the Dewes structure to the Brayton structure or whether he is combining two or more of the Dewes structures in his rejection. If the

former, it is not believed possible or suggested as discussed and if the latter, it is not believed possible because as applicant views Dewes it appears that the angled ends of Dewes both extend in the same direction. If you seek an analogy with the claim language of Claim 1 then the ends in Dewes both extend on the same side of the longitudinal axis. In addition the steel rule construction proposed by the Examiner could not be arranged as recited in the last recitation of Claim 1. For these reasons it is submitted that Claim 1 and all of the claims dependent thereon patentably differentiate of the art and should be allowed.

Claim 5 is believed to be separately patentable over and above the reasons given for the allowance of Claim 1. It will be noted that the structure which is best seen in Figure 12 is found in this claim. This is described as the terminating end of the first and second portions of the rule and the cutting edge thereat extends axially a greater distance than the other portions of the terminating end. This structure is not shown or suggested in Brayton or Dewes.

Issue 2 has to do with the rejection of Claims 2-3 under 35 USC 103(a) as unpatentable over Brayton et al in view of Johnson. These claims are urged to be allowable for the same reasons urged for the allowance of Claim 1. Speaking directly to the issue of Claim 2, this claim relates to the structure which solves a problem which is not even apparent in any of the prior art. The use of the steel rule of the present invention creates the inner corners 80 (See Figure 11) which inner corners are not found in the cited art. Since the substrate cut at these inner corners is not located on the outer perimeter of

the die, a special means must be devised to prevent paper buildup and malfunctioning of the die. This is accomplished by placing the cylindrical piece of ejection rubber in the square corner which is formed at the ends of four of the steel rules. In operation when the press comes closed it engages the top of the cylinder of rubber pushing it down and causing it to deform into the square shape as seen in Figure 11. This fills the square shape and prevents cut paper from entering the shape and when the press opens the rubber resumes its original cylindrical shape. In this process the ejection rubber pushes cut paper out of the die. This structure and the problem that it solves is not shown or suggested in the art and this is the reason Claim 2 is believed to be patentable over and above Claim 1 from which it depends.

Issue 3 has to do with the rejection of Claims 7-25 under 35 USC 103(a) as unpatentable over Johnson. To the extent that applicant understands the rejection it is disagreed with. The structure the Examiner is apparently referring to in Johnson (9-10) is not a single rule but rather two rules. This type of structure is that used in making steel rule dies which are to cut substrate with curved or rounded corners and which requires a very skilled and experienced die maker to construct. See page 1, line 18 through page 2, line 11 of the present disclosure where this is discussed. Clearly no structure found in Johnson can be arranged to come up with the structure found in Claim 7 for example or any of the claims that are dependent. The Examiner admits that there is no suggestion in Johnson for a second adjacent steel rule and since the ends of the rule shown in Johnson both extend in the same direction they could not possibly be combined as found in the

claim. Applicant disagrees with the Examiner's position that applicant's claim amounts to merely a duplication of the Johnson structure.

Claim 9 is urged to be separately patentable even though ultimately dependent on Claim 7. This claim defines the structure shown in Figure 12 which defines the ends of the steel rule. This structure is not shown or suggested in the art.

Claim 11 is believed to be separately patentable in that it contains most of the structure urged for the allowance of Claim 7. In addition it is allowable over the art and is separately patentable in the recitation that the first end portion of a given steel rule engages the next adjacent steel rule to form a 45 degree corner. Claim 11 is believed to be separately patentable.

Claim 14 is believed to be separately patentable in that it recites the structure of the novel steel rule of the present invention and is not shown or suggested in the art of record. At best Johnson shows a steel rule but lacks essentially all of the remaining structure contained in this claim. The ends of the rule shown in Johnson do not extend at a 45 degree angle and they extend on the same side of any axis that could be used to describe the rule. Claim 14 differentiates over the art. The rule defined in Claim 14 can be used to construct the steel rule die defined for example in Claim 11 whereas by no stretch of the imagination could the steel rule shown in Johnson be so used.

Claim 16 is believed to be separately patentable over its dependent claims in that it recites that the end portions are integral with the steel member and extend at a 45 degree angle to the longitudinal axis. This is not shown in the art and particularly in Johnson.

Claim 18 is believed to be separately patentable in that it describes the structure that is illustrated for example in Figure 12 which structure is not shown in the art and particularly in Johnson.

Claim 20 is believed separately patentable since it describes the rule of the present invention which can be used to construct the novel die disclosed. The first end portion is said to extend at an angle to the extent of the metal member.

Claim 22 is separately patentable in that the end portion is said to be integral with the steel member and extends at a 45 degree angle to the extent of the steel member.

Claim 24 is believed to be separately patentable in that it describes the structure illustrated in Figure 12 which is not shown or suggested in Johnson.

Comments on Examiner's Response to Arguments

The Examiner uses the combination of Brayton and Dewes to reject applicant's claims as discussed above but does not tell us where the suggestion is found in either Brayton or Dewes to meet the combination claimed for example in Claim 1. Brayton does not even show individual rules arranged to form his die but rather shows a continuous rule 12a. Since there are no individual rules to modify there clearly is no suggestion in Brayton. Applicant contends that Dewes does not illustrate a steel rule having ends extending at a 45 degree angle and on opposite sides of a longitudinal axis. The Examiner points to the area between point b-e of Dewes as to meeting this limitation but applicant submits that the Examiner is mistaken.

Regarding Claim 2 Johnson does not even illustrate the problem that exists as defined in the claim let alone the structure used to solve the problem.

Regarding Claims 7-25 the Examiner uses the Johnson reference in his rejection. As pointed out above the Examiner points to two rules in Johnson to make his rejection which makes it an improper rejection. As pointed out above the rule disclosed in Johnson is the type of rule described in applicant's specification which is used to cut substrate which has rounded corners and as pointed out requires a die maker with much skill and experience to make. This results in a die which is relatively expensive because of the skill required of the die maker as well as the time factor. As pointed out above one cannot take a plurality of rules as disclosed in Johnson and assemble them as taught in the present application to produce a steel rule die quickly and inexpensively and with relatively unskilled help.

APPENDIX

The rejected Claims 1-25 are set forth in the attached appendix.

SUMMARY

For the above referred to reasons discussed in detail under the headings of Issues 1 through 3, it is submitted the Examiner's final rejection of Claims 1-25 is incorrect and reversal is respectfully requested.

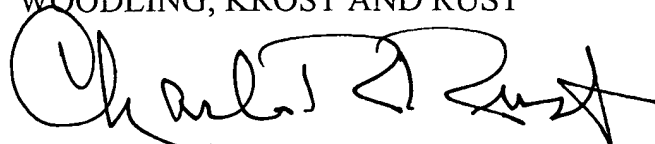
FEE

Please find enclosed check in the amount of \$150.00 for filing a brief in support of an appeal pursuant to 37 CFR Section 1.17(c). Please charge Woodling, Krost and Rust

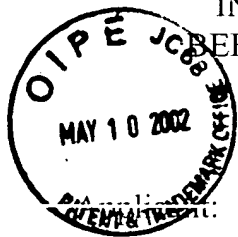
deposit account No. 23-3060 for any additional fees required..This brief is being filed in triplicate.

Respectfully submitted,

WOODLING, KROST AND RUST

A handwritten signature in black ink, appearing to read "Charles R. Rust", with a stylized flourish at the end.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant: Henry H. Jenkins

Examiner: O. Flores Sanchez
Art Unit: 3724

Serial No: 09/580,412

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Assistant Commissioner for Patents
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APPENDIX

1. A steel rule die including in combination
 - a bottom board,
 - one or more cavity boards on top of said bottom board,
 - a metal plate located on top of said top cavity board,
 - a top board located on top of said metal plate,
 - a plurality of rule slots in said top board defining in plan view a rectangular or square configuration,
 - a steel rule in each of said slots,
 - each of said steel rules being generally flat to fit in a slot and having a bottom portion adjacent said metal plate and a top portion formed into a cutting edge residing above the surface of said top board,
 - each said steel rule extending on a longitudinal axis and having first and second end

portions,

said first end portion extending at approximately a 45° angle to said longitudinal axis and on one side of said axis,

said second end portion extending at approximately a 45° angle to said longitudinal axis and on another side of said axis,

said steel rules in said rule slots being arranged alternately with said first end portion of a given rule located adjacent said second end portion of a next rule adjacent said given rule.

2. A steel rule die as claimed in claim 1 wherein the end portions of four steel rules meet to define an inside corner which is generally square in configuration, a generally cylindrical ejection rubber located within said square configuration to eject material cut by the cutting edges of the meeting steel rules.

3. A steel rule die as claimed in claim 1 wherein ejection rubber is positioned on opposite sides of said steel rules to eject material cut by the cutting edges of said steel rules.

4. A steel rule as claimed in claim 1 wherein said cutting edge is defined by a generally triangular shaped configuration.

5. A steel rule die as claimed in claim 4 wherein the terminating end of each of said first and second end portions of said steel rule is formed on an angle to the vertical whereby the cutting edge thereat extends axially a greater distance than other portions of the terminating end.

6. A steel rule die as claimed in claim 5 wherein slots are formed extending from said bottom portion into said steel rule to support said steel rule.

7. A steel rule die including in combination
a metal plate,

a top board located on top of said metal plate,
a plurality of rule slots in said top board,
a steel rule in said slots,
each of said steel rules being generally flat to fit in a slot and having a bottom portion adjacent said metal plate and a top portion formed into a cutting edge residing above the surface of said top board,

each said steel rule extending on a longitudinal axis and having first and second end portions,

said first end portion extending at approximately a 45° angle to said longitudinal axis and on one side of said axis,

said second end portion extending at approximately a 45° angle to said longitudinal axis and on another side of said axis,

said steel rules in said rule slots being arranged alternately with said first end portion of a given rule located adjacent said second end portion of a next rule adjacent said given rule.

8. A steel rule as claimed in claim 7 wherein said cutting edge is defined by a generally triangular shaped configuration.

9. A steel rule die as claimed in claim 8 wherein the terminating end of each of said first and second end portions of said steel rule is formed on an angle to the vertical whereby the cutting edge thereat extends axially a greater distance than other portions of the terminating end.

10. A steel rule die as claimed in claim 9 wherein slots are formed extending from said bottom position into said steel rule to support said steel rule.

11. A steel rule die including in combination

a metal plate,
a top board located on top of said metal plate,
a plurality of rule slots in said top board,
a steel rule in said slots,
each of said steel rules being generally flat to fit in a slot and having a bottom portion adjacent said metal plate and a top portion formed into a cutting edge residing above the surface of said top board,
each said steel rule extending on a longitudinal axis and having first and second end portions,
said first end portion extending at approximately a 45° angle to said longitudinal axis and on one side of said axis,
said first end portion of a given steel rule engaging a next adjacent steel rule to form a 45° angled corner.

12. A steel rule as claimed in claim 11 wherein said cutting edge is defined by a generally triangular shaped configuration.

13. A steel rule die as claimed in claim 12 wherein slots are formed extending from said bottom portion into said steel rule to support said steel rule.

14. A rule for use in a steel rule die including a metal member having upper and lower edge portions and first and second end portions,

said first end portion extending at an angle to the extent of said metal member and in a first direction,

said second end portion extending at an angle to the extent of said metal member and in a

second direction,

said upper edge portion having a cutting edge formed thereon.

15. A rule as claimed in claim 14 wherein said rule is steel and is generally flat in configuration.

16. A steel rule as claimed in claim 15 wherein said first and second end portions are integral with said steel member and each formed at approximately a 45° angle to the extent of said steel member and in a direction opposite to each other.

17. A steel rule as claimed in claim 15 wherein said cutting edge is defined by a generally triangular shaped configuration.

18. A steel rule as claimed in claim 17 wherein the terminating end of each of said first and second end portions is formed on an angle to the vertical whereby the cutting edge thereat extends axially a greater distance than other portions of the terminating end.

19. A steel rule as claimed in claim 18 wherein slots are formed extending from the lower edge portion into said steel member to support said steel rule when used in a steel rule die.

20. A rule for use in a steel rule die including a metal member having upper and lower edge portions and first and second end portions,

said first end portion extending at angle to the extent of said metal member and in a first direction, and

said upper edge portion having a cutting edge formed thereon.

21. A rule as claimed in claim 20 wherein said rule is steel and is generally flat in configuration.

22. A steel rule as claimed in claim 21 wherein said end portion is integral with said

steel member and is formed at approximately a 45° angle to the extent of said steel member.

23. A steel rule as claimed in claim 21 wherein said cutting edge is defined by a generally triangular shaped configuration.

24. A steel rule as claimed in claim 23 wherein the terminating end of said first end portion is formed on an angle to the vertical whereby the cutting edge thereat extends axially a greater distance than other portions of the terminating end.

25. A rule as claimed in claim 24 wherein slots are formed extending from the lower edge portion into said steel member to support said steel rule when used in a steel rule die.